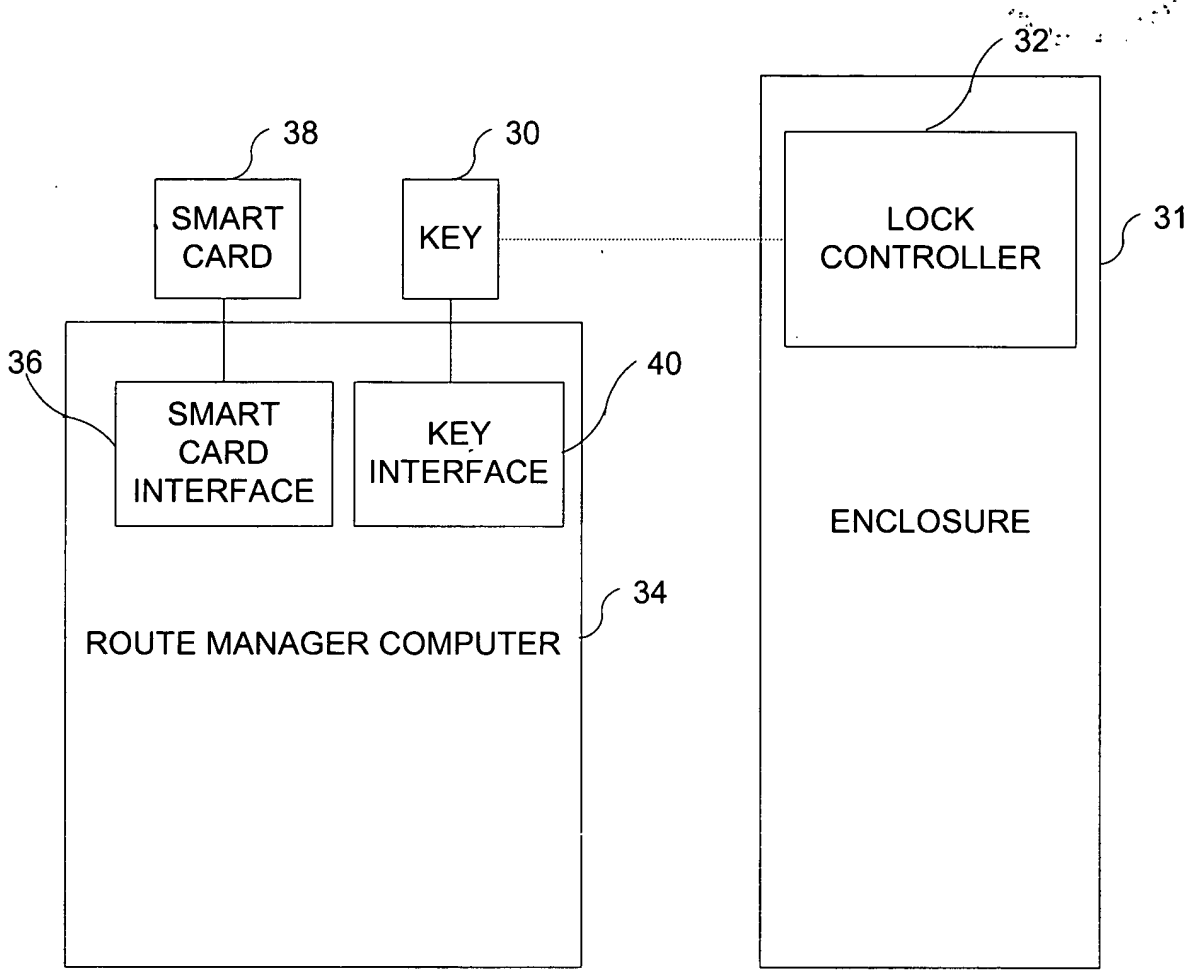
32
38
30
SMART CARD
KEY
LOCK CONTROLLER
31
36
SMART CARD INTERFACE
KEY INTERFACE
40
ENCLOSURE
34
ROUTE MANAGER COMPUTER

FIG. 1

Express Mail Label No. EV 325 556 013

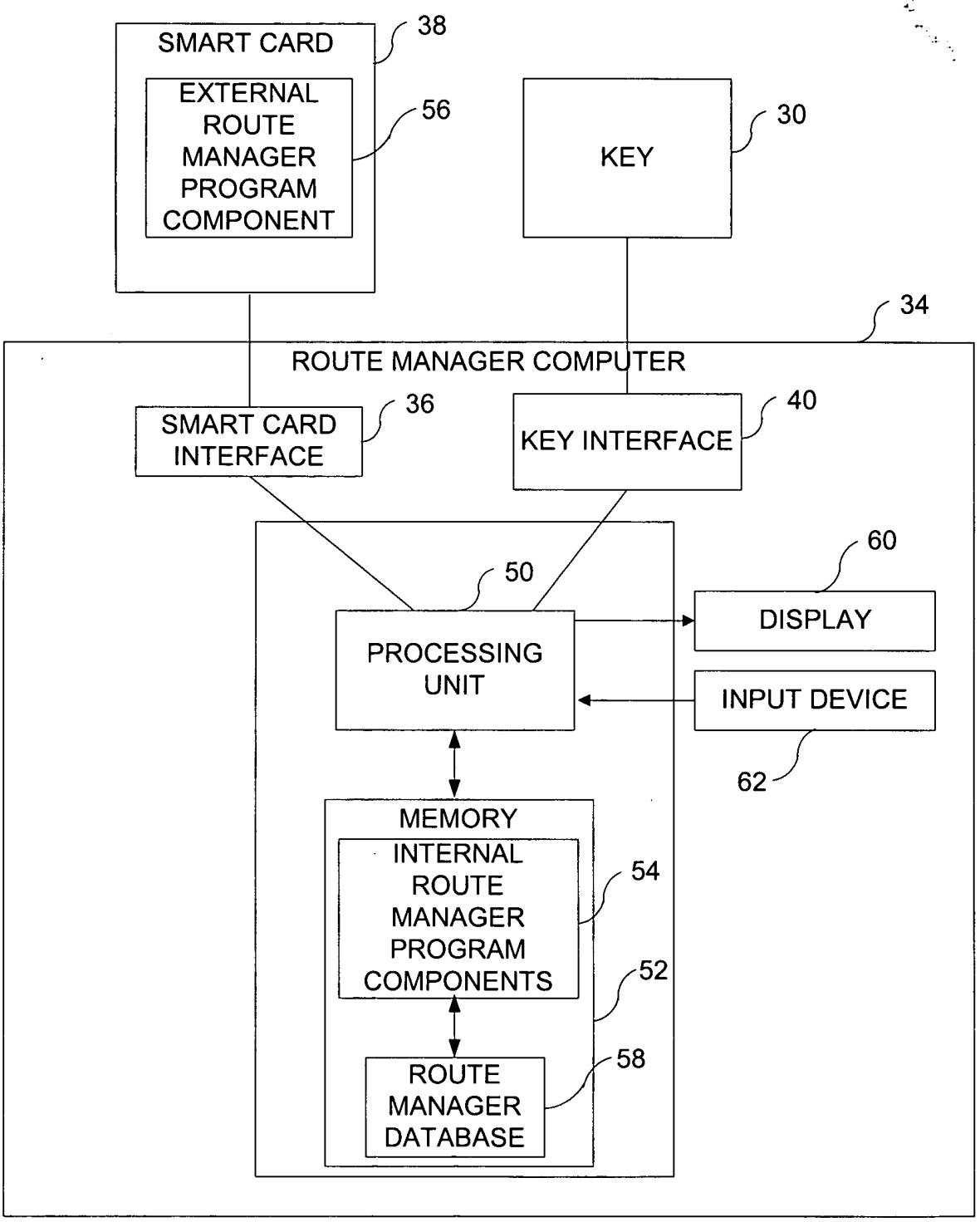

FIG. 2

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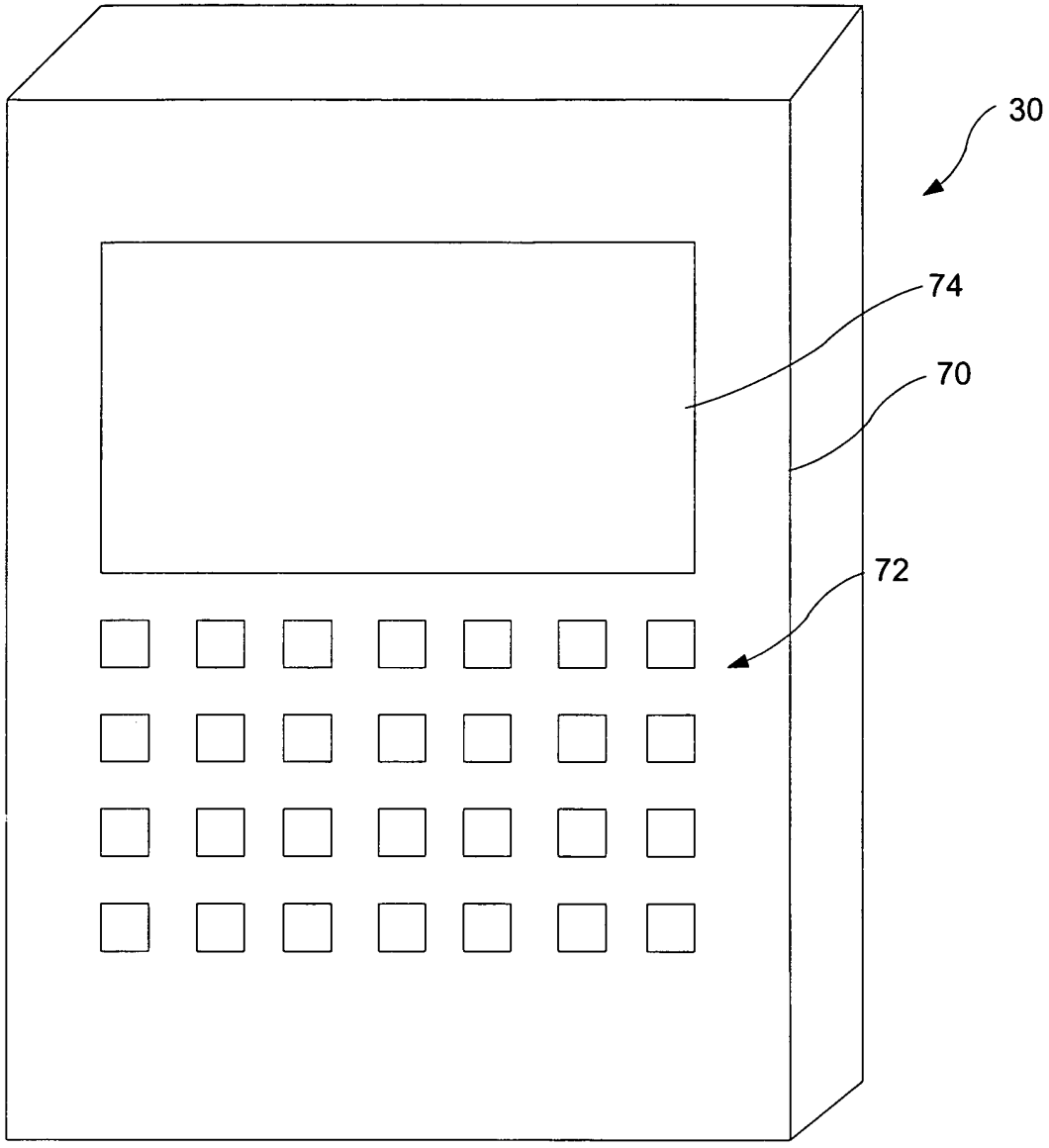


FIG. 3

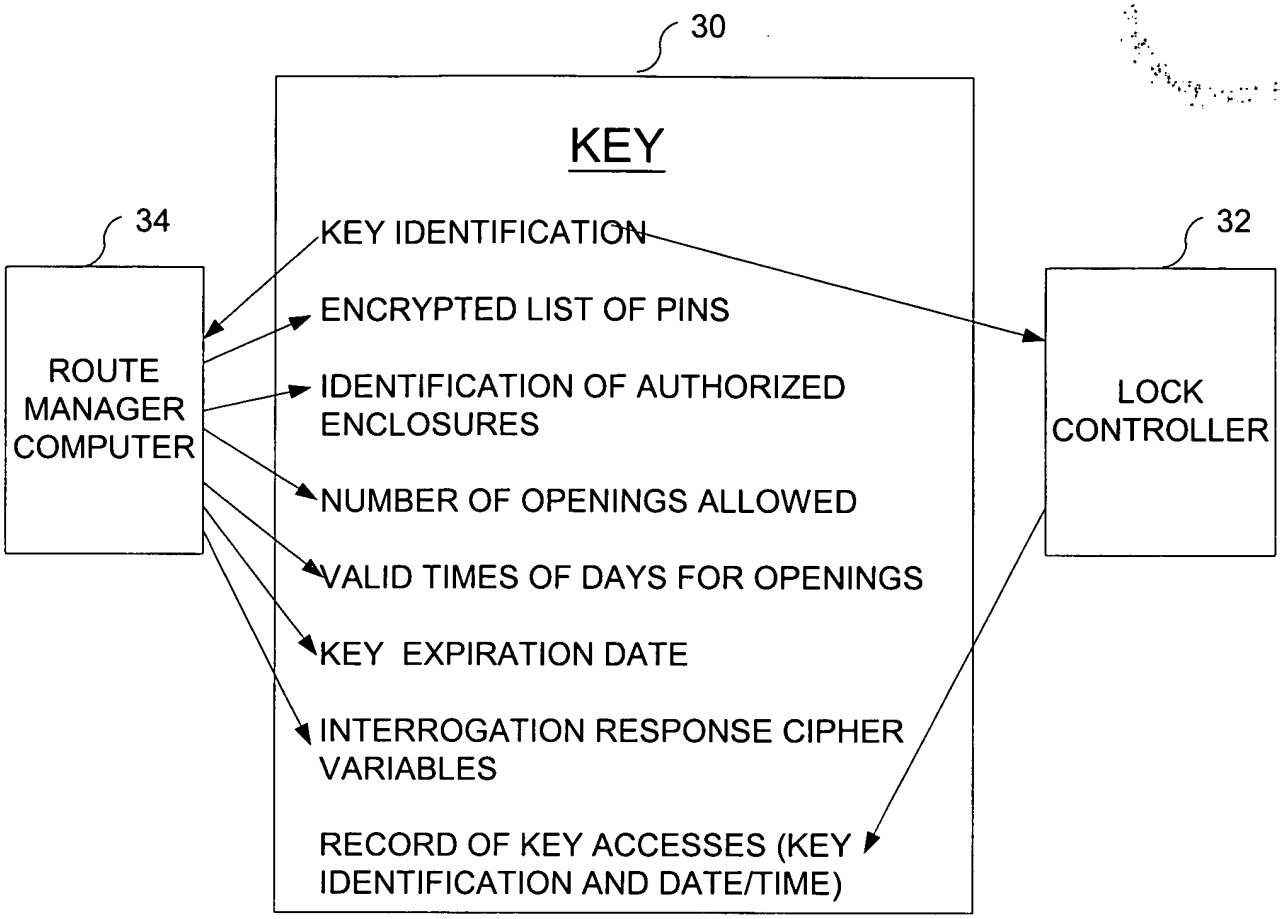

30
KEY
34
KEY IDENTIFICATION
32
ENCRYPTED LIST OF PINS
ROUTE MANAGER COMPUTER
IDENTIFICATION OF AUTHORIZED ENCLOSURES
LOCK CONTROLLER
NUMBER OF OPENINGS ALLOWED
VALID TIMES OF DAYS FOR OPENINGS
KEY EXPIRATION DATE
INTERROGATION RESPONSE CIPHER VARIABLES
RECORD OF KEY ACCESSES (KEY IDENTIFICATION AND DATE/TIME)

FIG. 4

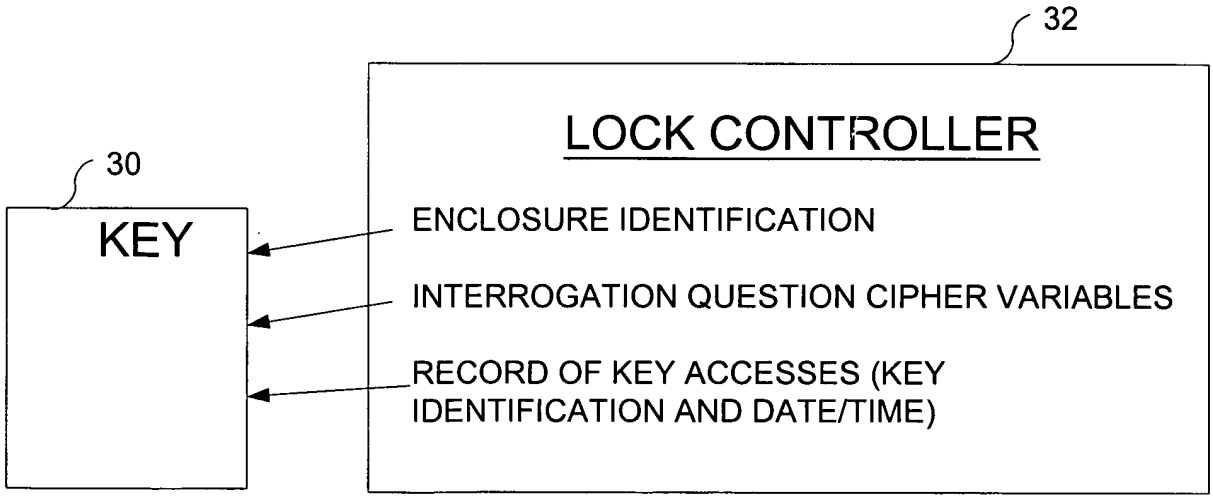

32
LOCK CONTROLLER
30
KEY
ENCLOSURE IDENTIFICATION
INTERROGATION QUESTION CIPHER VARIABLES
RECORD OF KEY ACCESSES (KEY IDENTIFICATION AND DATE/TIME)

FIG. 5

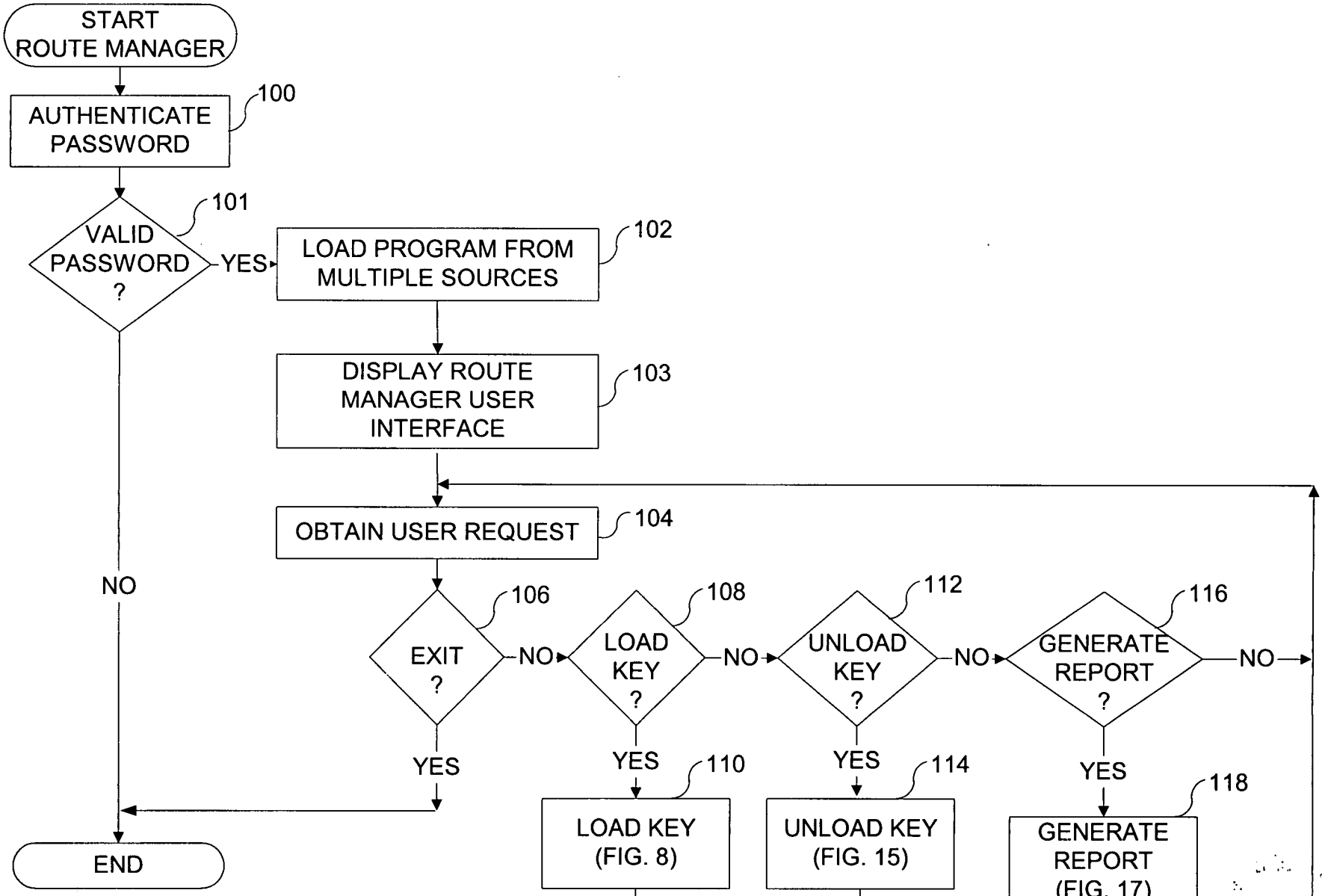

START ROUTE MANAGER
AUTHENTICATE PASSWORD
100
VALID PASSWORD ?
101
YES
NO
LOAD PROGRAM FROM MULTIPLE SOURCES
102
DISPLAY ROUTE MANAGER USER INTERFACE
103
OBTAIN USER REQUEST
104
EXIT ?
106
NO
YES
LOAD KEY ?
108
NO
YES
LOAD KEY (FIG. 8)
110
UNLOAD KEY ?
112
NO
YES
UNLOAD KEY (FIG. 15)
114
GENERATE REPORT ?
116
NO
YES
GENERATE REPORT (FIG. 17)
118
END

FIG. 6

06825505.050501

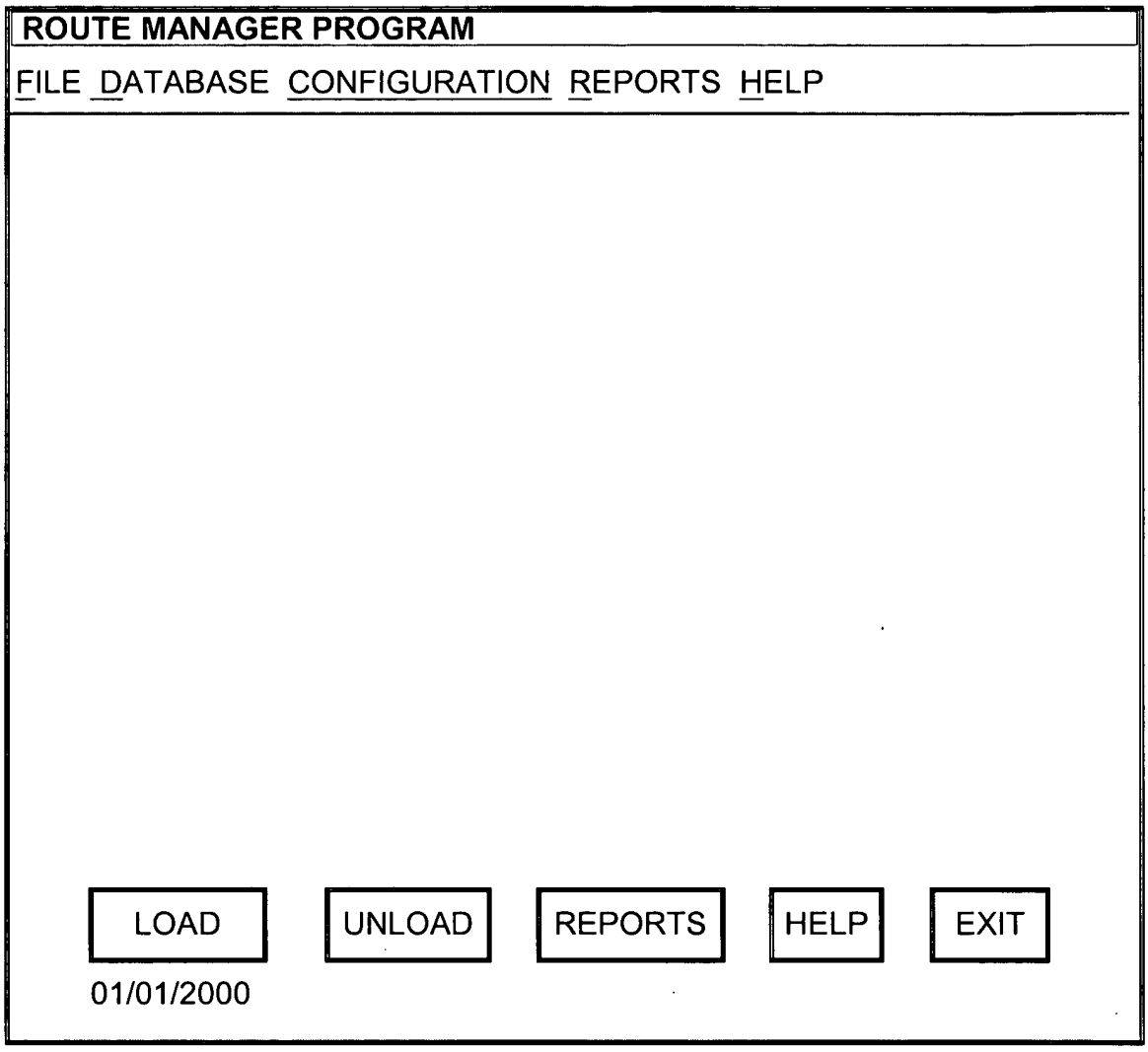


FIG. 7

0560250-0560250.14

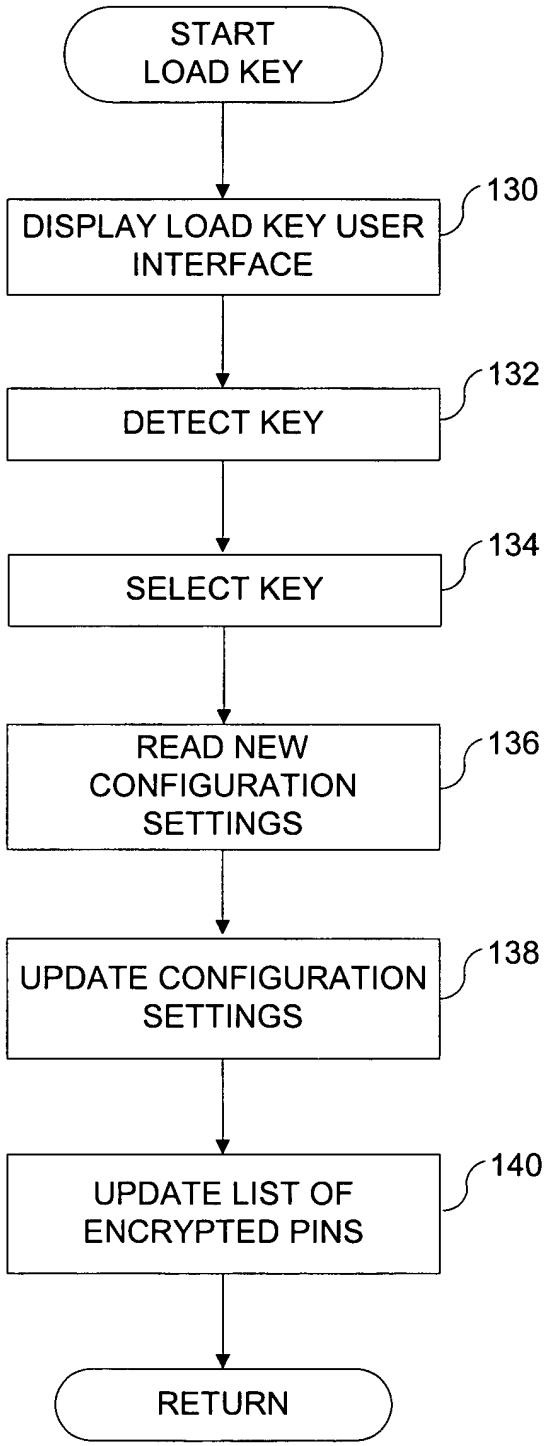


FIG. 8

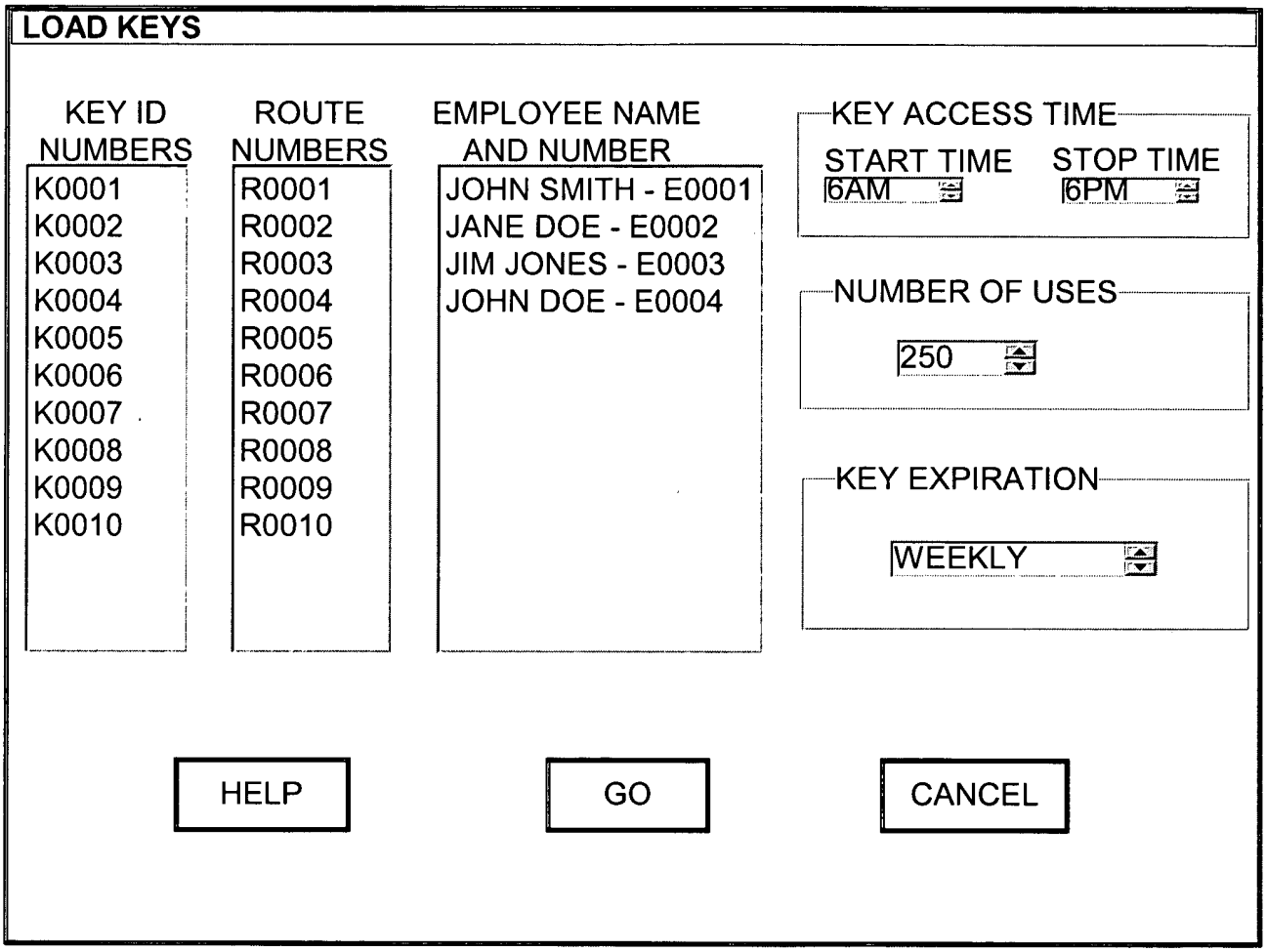

LOAD KEYS
KEY ID NUMBERS
K0001
K0002
K0003
K0004
K0005
K0006
K0007
K0008
K0009
K0010
ROUTE NUMBERS
R0001
R0002
R0003
R0004
R0005
R0006
R0007
R0008
R0009
R0010
EMPLOYEE NAME AND NUMBER
JOHN SMITH - E0001
JANE DOE - E0002
JIM JONES - E0003
JOHN DOE - E0004
KEY ACCESS TIME
START TIME
6AM
STOP TIME
6PM
NUMBER OF USES
250
KEY EXPIRATION
WEEKLY
HELP
GO
CANCEL

FIG. 9

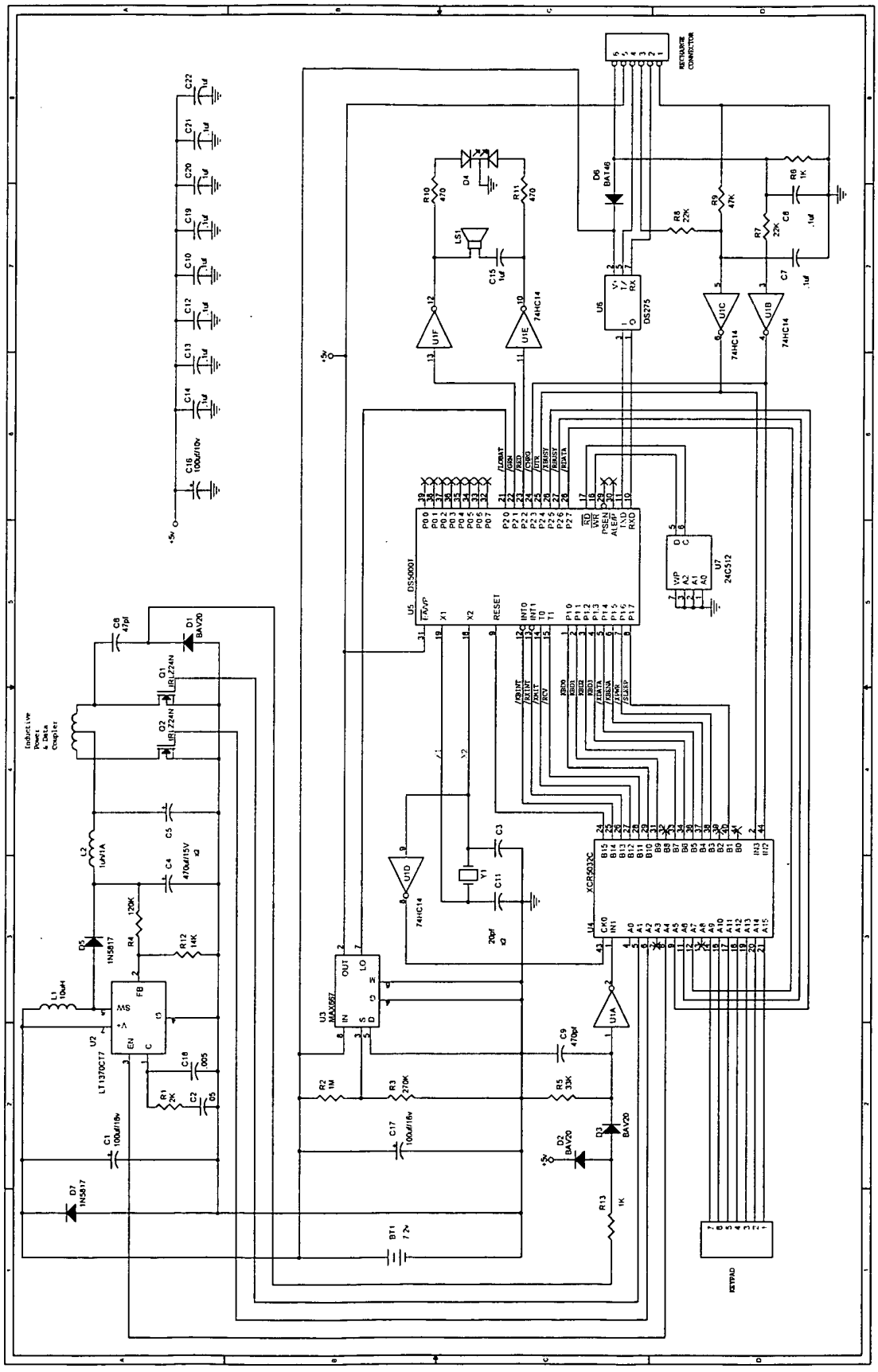


FIG. 10

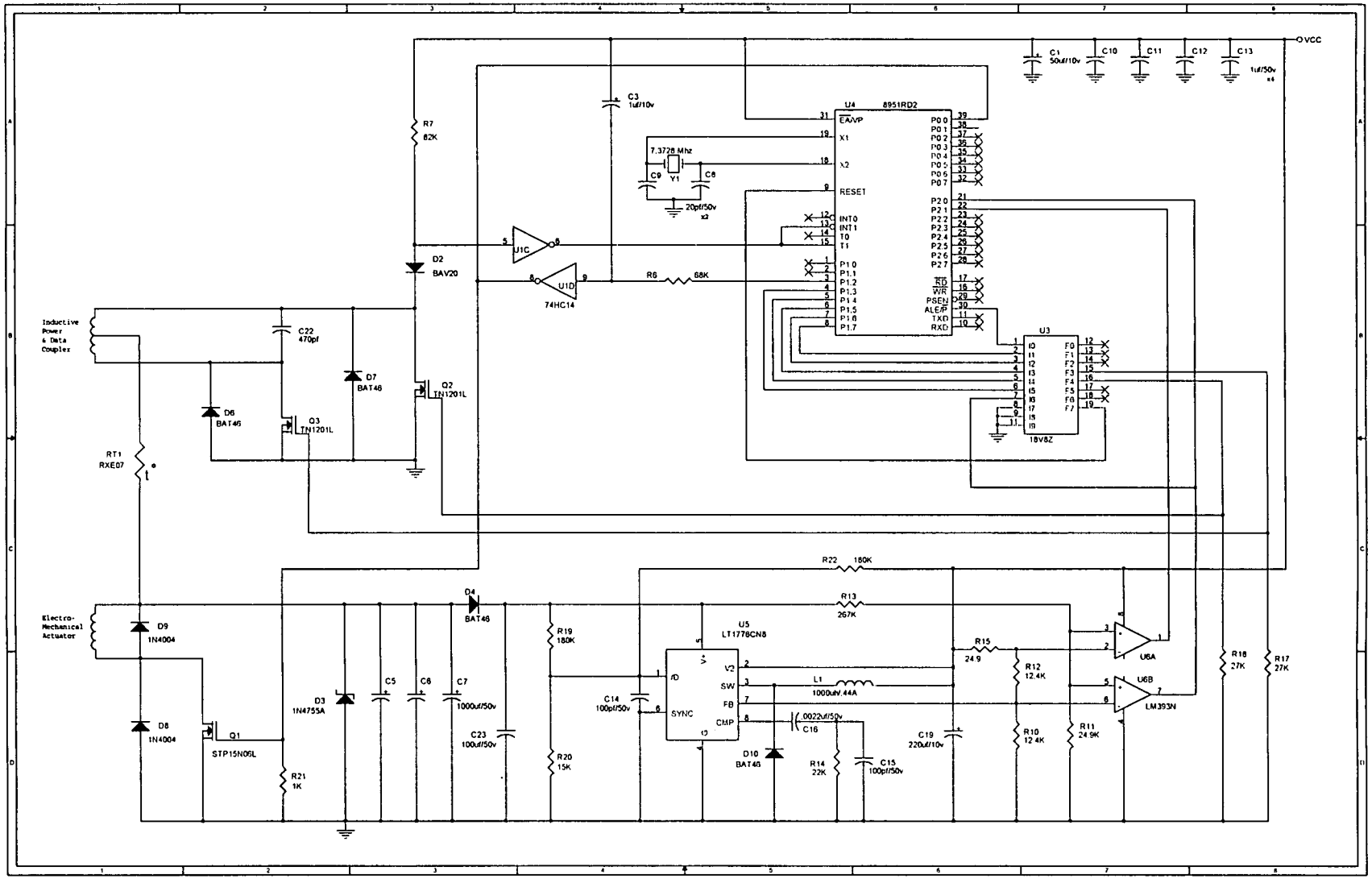

VCC
C1 50uf/10v
C10
C11
C12
C13 1uf/50v x4
C3 1uf/10v
R7 82K
U4 8951RD2
EA/VP
X1
X2
RESET
INT0
INT1
T0
T1
P1.0
P1.1
P1.2
P1.3
P1.4
P1.5
P1.6
P1.7
P0.0
P0.1
P0.2
P0.3
P0.4
P0.5
P0.6
P0.7
P2.0
P2.1
P2.2
P2.3
P2.4
P2.5
P2.6
P2.7
RD
WR
PSEN
ALE/P
TXD
RXD
7.3728 Mhz
C9
Y1
C8
20pf/50v x2
U1C
U1D
74HC14
D2 BAV20
R6 68K
U3
18V8Z
Inductive Power & Data Coupler
C22 470pf
D7 BAT46
D6 BAT46
Q3 TN1201L
Q2 TN1201L
RT1 RXE07
R22 180K
R13 267K
D4 BAT46
Electro-Mechanical Actuator
D9 1N4004
D8 1N4004
Q1 STP15N05L
D3 1N4755A
C5
C6
C7 1000uf/50v
C23 100uf/50v
R19 180K
R20 15K
R21 1K
U5 LT1778CN8
VIN
/D
SW
FB
SYNC
CMP
V2
C14 100pf/50v
L1 1000uH,4A
C16 .0022uf/50v
D10 BAT46
R14 22K
C15 100pf/50v
R15 24.9
C19 220uf/10v
R12 12.4K
R10 12.4K
R11 24.9K
U6A
U6B
LM393N
R18 27K
R17 27K

FIG. 11

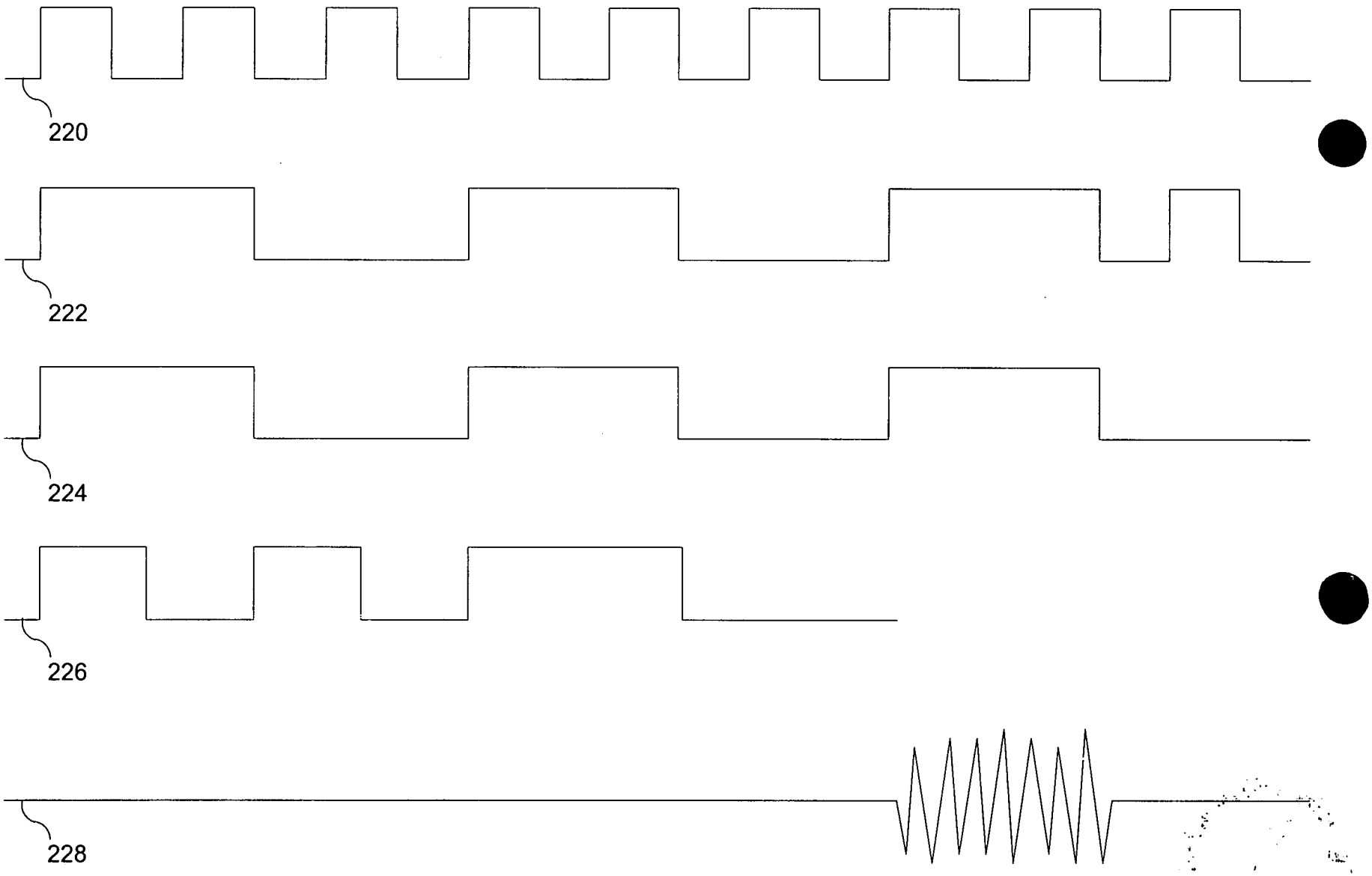


FIG. 12

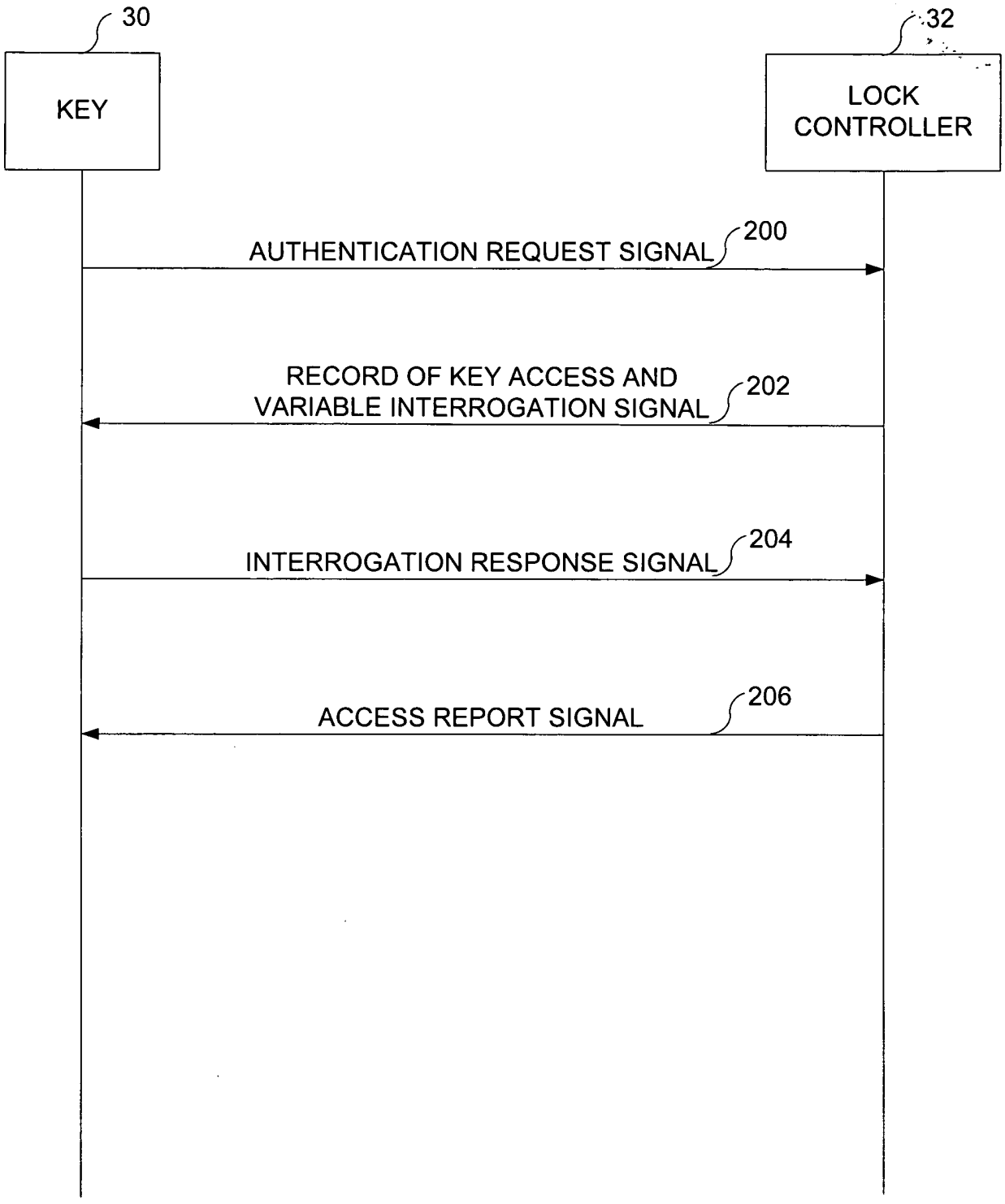
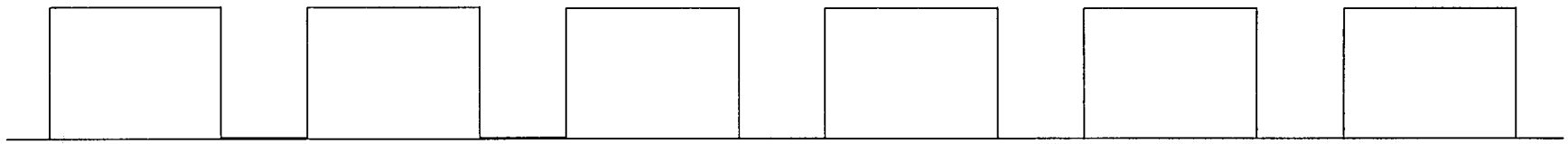
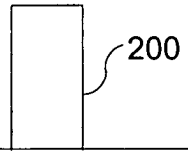

30
KEY
32
LOCK CONTROLLER
AUTHENTICATION REQUEST SIGNAL
200
RECORD OF KEY ACCESS AND VARIABLE INTERROGATION SIGNAL
202
INTERROGATION RESPONSE SIGNAL
204
ACCESS REPORT SIGNAL
206

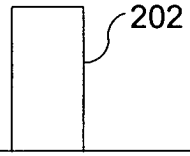
FIG. 13



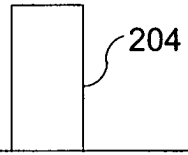
POWER
KEY CONTROLLER -> LOCK CONTROLLER



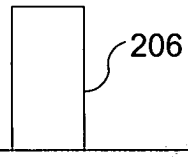
AUTHENTICATION REQUEST SIGNAL
KEY CONTROLLER -> LOCK CONTROLLER



RECORD OF KEY ACCESS AND VARIABLE INTERROGATION SIGNAL
LOCK CONTROLLER -> KEY CONTROLLER



INTERROGATION RESPONSE SIGNAL
KEY CONTROLLER -> LOCK CONTROLLER



ACCESS REPORT SIGNAL
LOCK CONTROLLER -> KEY CONTROLLER

FIG. 14

Patent Application Publication

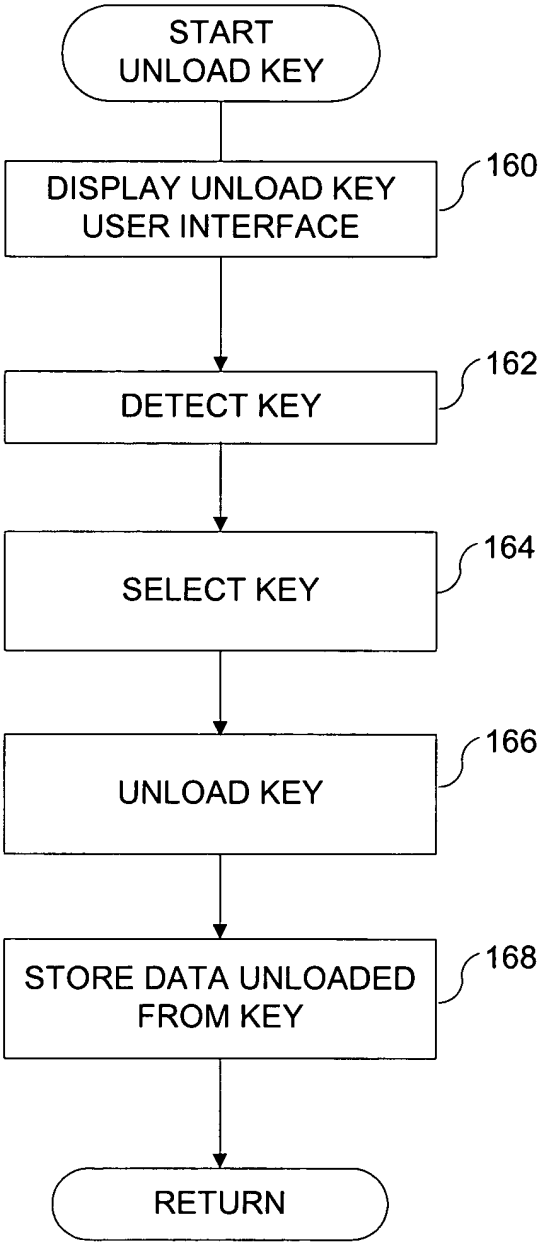


FIG. 15

05825506 - 092501

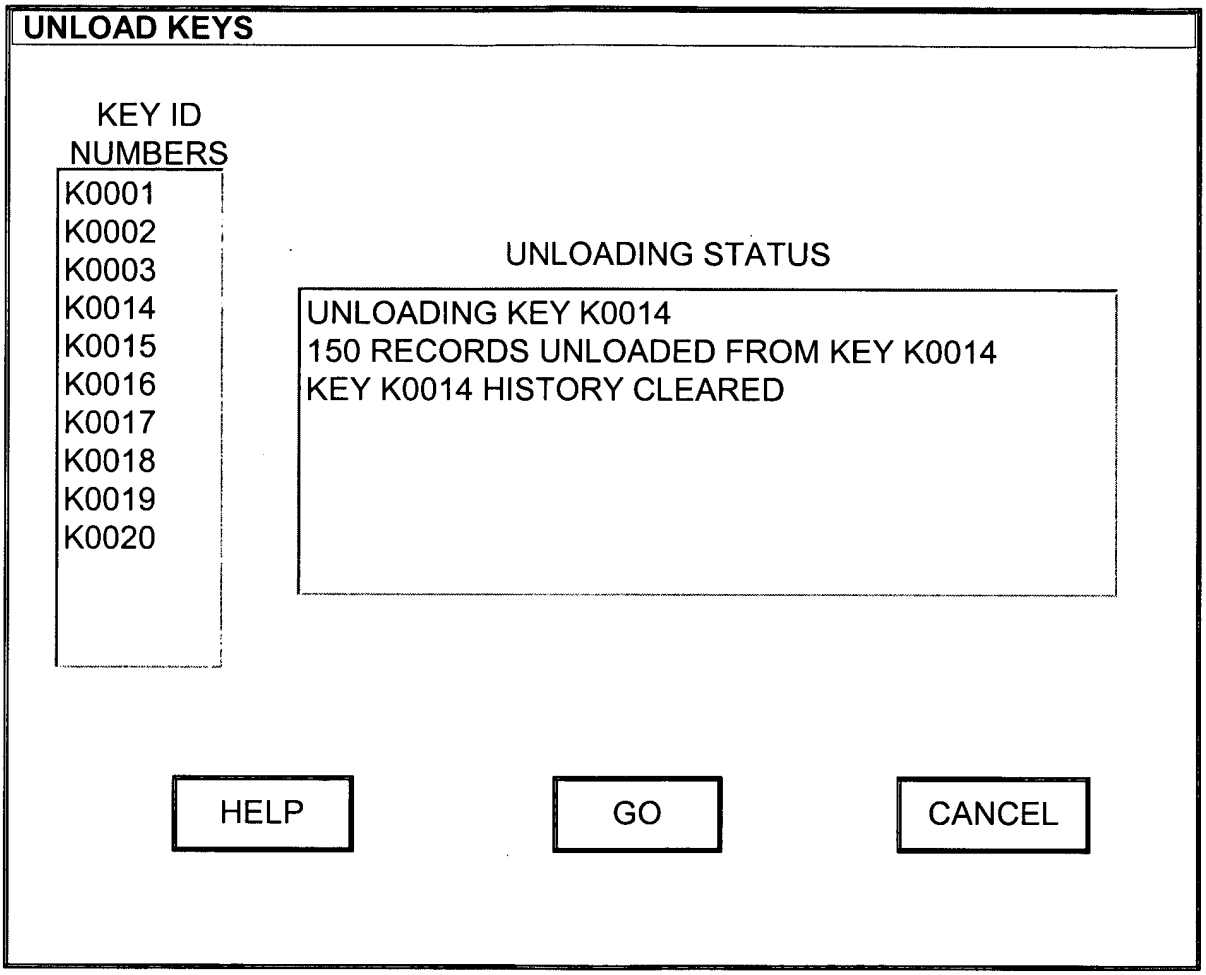


FIG. 16

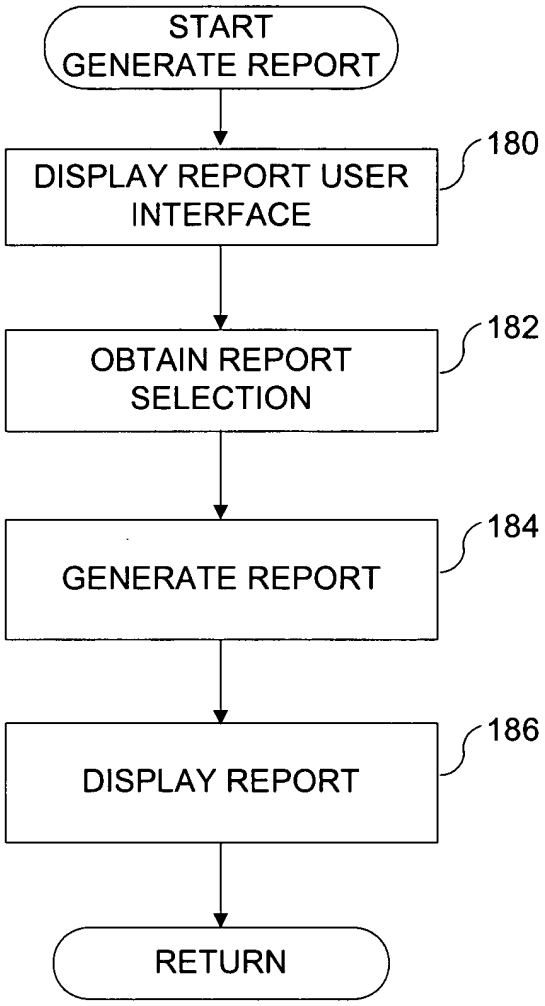

START
GENERATE REPORT
118
DISPLAY REPORT USER INTERFACE
180
OBTAIN REPORT SELECTION
182
GENERATE REPORT
184
DISPLAY REPORT
186
RETURN

FIG. 17

10525969.060502

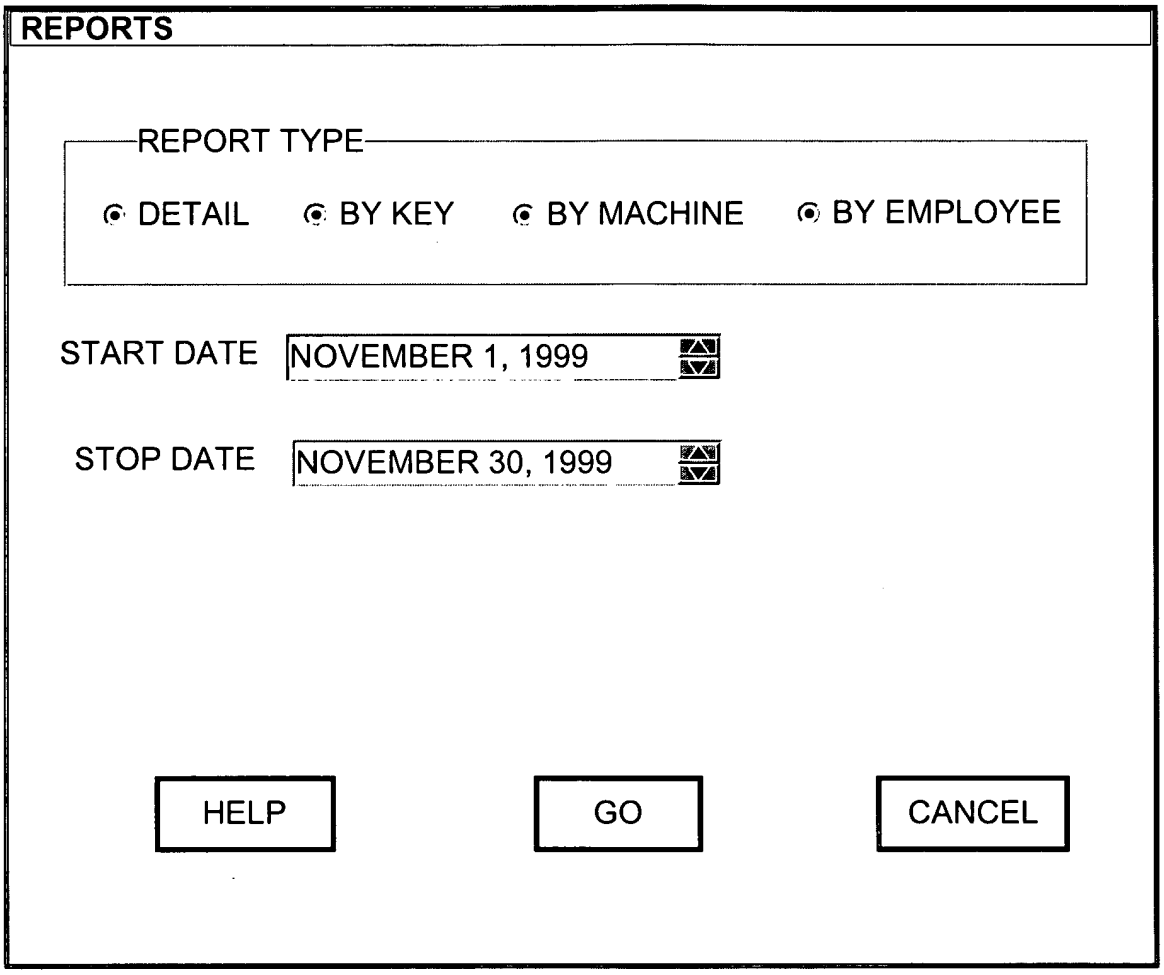


FIG. 18

REPORTS

DATE	MACHINE ASSET NUMBER	EMP. NUMBER	KEY ID	TIME
11/07/99	SC32014424	E0004	K0001	08:22:00 AM
11/08/99	SC32014424	E0004	K0001	08:22:00 AM
11/09/99	SC32014424	E0004	K0001	06:33:00 AM
11/10/99	SC32014424	E0004	K0001	03:55:00 AM
11/11/99	SC32014424	E0004	K0001	06:55:00 AM
11/07/99	SC32014425	E0003	K0002	10:33:00 AM
11/08/99	SC32014425	E0003	K0002	10:33:00 AM
11/09/99	SC32014425	E0003	K0002	05:22:00 AM
11/10/99	SC32014425	E0003	K0002	12:45:00 PM
11/11/99	SC32014425	E0003	K0002	05:22:00 AM
11/07/99	SC32014426	E0002	K0003	03:20:00 AM
11/08/99	SC32014426	E0002	K0003	09:55:00 AM
11/09/99	SC32014426	E0002	K0003	09:55:00 AM
11/10/99	SC32014426	E0002	K0003	04:55:00 AM
11/11/99	SC32014426	E0002	K0003	04:33:00 AM
11/07/99	SC32014427	E0001	K0004	06:30:00 AM
11/08/99	SC32014427	E0001	K0004	01:55:00 AM
11/09/99	SC32014427	E0001	K0004	06:47:00 AM
11/10/99	SC32014427	E0001	K0004	06:22:00 AM

CLOSE

PRINT

FIG. 19

T05250-050250